bendable and has a thickness of 5 to 150 μm and wherein the bendable composite is obtained by application of a suspension, which contains said at least one inorganic component and a sol, on and inside at least one bendable, open structured material-permeable support and stabilizing the suspension by heating the suspension at least once either at a temperature of between 50 and 100 °C for 10 minutes to 5 hours or a temperature of between 100 and 800 °C for 1 second to 10 minutes on and in the support.

93. (New) A gas filter as claimed in Claim 92, wherein the composite material or the gas filter is permeable to gases, solids or liquids.

94. (New) A gas filter as claimed in Claim 92, wherein the open-structured and material-permeable support has intermediate spaces having a size of from 0.02 to 500 μm.

95. (New) A gas filter as claimed in Claim 92, wherein the support comprises at least one material selected from the group consisting of carbon, metals, alloys, glass, ceramics, minerals, plastics, amorphous substances, natural products, composite materials or at least one combination of these materials.

96. (New) A gas filter as claimed in Claim 92, wherein the support comprises at least one at least partially electrically conductive material.

97. (New) A gas filter as claimed in Claim 92, wherein the support comprises fibers of at least one material selected from the group consisting of carbon, metals, alloys, ceramics, glass, plastics, composite materials, minerals, natural products and amorphous substances or fibers of at least one combination of these materials.

98. (New) A gas filter as claimed in Claim 92, wherein the support comprises woven fibers of metal or alloys.

99. (New) A gas filter as claimed in Claim 92, wherein the support comprises at least

one woven steel mesh.

100. (New) A gas filter as claimed in Claim 92, wherein the support comprises at least one woven mesh having a mesh opening of from 5 to 500 μm.

101. (New) A gas filter as claimed in Claim 92, wherein the support comprises a sintered metal, a sintered glass or a metal nonwoven having a pore width of from 0.1 to 500 μm.

102. (New) A gas filter as claimed in Claim 92, wherein the support comprises at least aluminum, silicon, cobalt, manganese, zinc, vanadium, molybdenum, indium, lead, bismuth, silver, gold, nickel, copper, iron, titanium, platinum, stainless steel, steel or brass or an alloy of these materials or a material coated with Au, Ag, Pb, Ti, Ni, Cr, Pt, Pd, Rh, Ru and/or Ti.

103. (New) A gas filter as claimed in Claim 92, wherein the inorganic component comprising a compound of at least one metal, at least one semimetal or at least one mixed metal with at least one element of main groups III to VII or a mixture of these compounds comprises at least one compound of an element of transition groups III to VIII or at least one element of main groups III to V with at least one of the elements Te, Se, S, O, Sb, As, P, N, Ge, Si, C, Ga, Al or B or at least one compound of an element of transition groups III to VIII and at least one element of main groups III to V with at least one of the elements, Te, Se, S, O, Sb, As, P, N, Ge, Si, C, Ga, Al or B or a mixture of these compounds.

104. (New) A gas filter as claimed in Claim 92, wherein the inorganic component comprises at least one compound of at least one of the elements, Sc, Y, Ti, Zr, V, Cr, Mo, W, Mn, Fe, Co, B, Al, In, Tl, Si, Ge, Sn, Pb, Sb or Bi with at least one of the elements Te, Se, S, O, Sb, As, P, N, C or Ga or at least one of these elements.

105. (New) A gas filter as claimed in Claim 92, wherein the inorganic component comprises aluminosilicates, aluminum phosphates, zeolites or partially exchanged zeolites.

106. (New) A gas filter as claimed in Claim 92, wherein the inorganic component comprises at least aluminum oxide or titanium oxide.

107. (New) A gas filter as claimed in Claim 92, wherein the composite material comprises at least two particle size fractions of at least one inorganic component.

108. (New) A gas filter as claimed in Claim 107, wherein the particle size fractions in the composite material have a particle size ratio of from 1:1 to 1:100.

109. (New) A gas filter as claimed in at least one of Claim 107, wherein the composite material has a ratio of amounts of the particle size fractions of from 0.01:1 to 1:0.01.

110. (New) A gas filter as claimed in Claim 92, wherein the composite material has pores which are permeable to particles having a maximum size of from 0.1 to 0.5 μm.

111. (New) A gas filter as claimed in Claim 92, wherein the composite material can be bent to a radius of down to 2 mm.

112. (New) A gas filter as claimed in Claim 92, wherein the gas filter has the composite material rolled into a suitable container having at least one gas inlet and at least one gas outlet, with the composite material being arranged so that the gas to be filtered must, after entering the gas filter, pass at least once through the composite material before it can leave the gas filter via the gas outlet.

113. (New) A gas filter as claimed in Claim 112, wherein thermally decomposable solids or liquids which have been filtered from a filtered gas and block the pores of the composite material are removed from the gas filter by baking the gas filter by application of a

voltage to the support of the composite material.

114. (New) A gas filter as claimed in Claim 113, wherein the gas inlet and the gas outlet are provided with a flow- or pressure-measuring device by means of which the pressure or the amount of gas entering and leaving the filter is measured and when a preset difference between the measured values, which represents a measure of the blocking of the composite material, is reached, the baking of the gas filter is commenced.

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115. (New) A gas filter as claimed in Claim 92, wherein the composite material comprises at least one catalytically active component.

116. (New) A gas filter as claimed in Claim 115, wherein the composite material comprises, as catalytically active component, at least one inorganic material, at least one metal or at least one organometallic compound which has catalytically active centers on its surface.

117. (New) A gas filter as claimed in Claim 115, wherein the composite material comprises, as catalytically active component, at last one oxide of at least one of the elements Mo, Sn, Zn, V, Mn, Fe, Co, Ni, As, Sb, Pb, Bi, Ru, Re, Cr, W, Nb, Hf, La, Ce, Gd, Ga, In, Tl, Ag, Cu, Li, K, Na, Be, Mg, Ca, Sr and Ba.

118. (New) A gas filter as claimed in Claim 115, wherein the composite material comprises at least titanium suboxide as catalytically active component.

119. (New) A gas filter as claimed in Claim 115, wherein the composite material comprises, as catalytically active component, at least one metal compound selected from among the compounds of the metals, Pt, Rh, Ru, Ir, Au, Ag, Os, Re, Cu, Ni, Pd and Co.

120. (New) A gas filter as claimed in Claim 115, wherein the composite material comprises, as catalytically active component, at least one metal selected from among the

metals, Pt, Rh, Ru, Ce, Ir, Au, Ag, Os, Re, Cu, Ni, Pd and Co.

121. (New) A process for producing a gas filter as claimed in Claim 92, which comprises producing a material-permeable composite material by applying, in and on at least one open-structured and material-permeable support, at least one suspension which comprises at least one inorganic component comprising at least one compound of at least one metal, a semimetal or a mixed metal with at least one of the elements of main groups III to VII and a sol and by solidifying the suspension on or on and in the support material by subsequent heating at least once.

122. (New) The process as claimed in Claim 121, wherein the suspension is applied on and in or else on or in the support by printing, pressing-on, pressing-in, rolling-on, doctor blade coating, painting-on, dipping, spraying or casting.

123. (New) The process as claimed in Claim 121, wherein an open-structured and material-permeable support comprising a material selected from the group consisting of carbon, metals, minerals, ceramics, composite materials or at least one combination of these materials is used.

124. (New) The process as claimed in Claim 121, wherein the support comprises at least one material which is at least partially electrically conductive.

125. (New) The process as claimed in Claim 121, wherein a woven stainless steel mesh is used as support.

126. (New) The process as claimed in Claim 121, wherein the suspension which comprises at least one inorganic component and at least one metal oxide sol, at least one semimetal oxide sol or at least one mixed metal oxide sol or a mixture of these sols is produced by suspending at least one inorganic component in at least one of these sols.

127. (New) The process as claimed in Claim 121, wherein the suspension comprises at least one catalytically active component.

128. (New) The process as claimed in Claim 121, wherein the sols are obtained by hydrolyzing at least one metal compound, a mixed metal compound or at least one semimetal compound when using a liquid, a gas or a solid.

129. (New) The process as claimed in Claim 128, wherein the liquid, gas or solid used for hydrolyzing the metal compound is water, water vapor, ice, alcohol or an acid or a combination of these compounds.

130. (New) The process as claimed in Claim 121, wherein at least one metal alkoxide compound or at least one semimetal alkoxide compound selected from among the alkoxide compounds of the elements Ti, Zr, Al, Si, Sn, Ce and Y or a metal nitrate, a metal chloride or a metal carbonate selected from amount the metal salts of the elements Ti, Zr, Al, Si, Sn, Ce and Y is hydrolyzed.

131. (New) The process as claimed in Claim 128, wherein the hydrolysis of the compounds to be hydrolyzed is carried out using at least half the molar ratio of water, based on the hydrolyzable group of the hydrolyzable compound.

132. (New) The process as claimed in Claim 128, wherein the hydrolyzed compound is treated with at least one organic or inorganic acid.

133. (New) The process as claimed in Claim 121, wherein a titanium dioxide sol acidified with mineral acid is used as sol.

134. (New) The process as claimed in Claim 121, wherein at least one inorganic component having a particle size of from 1 to 10,000 nm is suspended in a sol.

135. (New) The process as claimed in Claim 121, wherein an inorganic component

comprising at least one compound selected from among metal compounds, semimetal compounds, mixed metal compounds and metal mixed compounds with at least one of the elements of main groups III to VII, or at least one mixture of these compounds, is suspended.

136. (New) The process as claimed in Claim 135, wherein an inorganic component comprising at least one compound from among the oxides of the transition elements or the elements of main groups III to V is suspended.

137. (New) The process as claimed in Claim 121, wherein at least one catalytically active component is incorporated into the composite material.

138. (New) The process as claimed in Claim 121, wherein at least one catalytically active component is added to the sol.

139. (New) The process as claimed in Claim 137, wherein at least one noble metal, a noble metal compound or a zeolite is incorporated as catalytic component into the composite material.

140. (New) The process as claimed in Claim 121, wherein the suspension present on and in or else on or in the support is solidified by heating the composite at least once from 50 to 1000°C.

141. (New) The process as claimed in Claim 140, wherein the composite is subjected to a temperature of from 50 to 100°C for from 10 minutes to 5 hours.

142. (New) The process as claimed in Claim 140, wherein the composite is subjected to a temperature of from 100 to 800°C for from 1 second to 10 minutes.

143. (New) The process as claimed in Claim 121, wherein the solidification of the suspension is achieved by applying the suspension on and in a preheated support.

144. (New) The process as claimed in Claim 121, wherein the dried and strengthened

composite material is impregnated with a solution comprising at least one metal salt, the composite material which has been treated in this way is dried by heating and the metal salt which is present in and on or else in or on the composite material is reduced to metal.

145. (New) The process as claimed in Claim 121, wherein a metal salt which is present in the composite material is reduced to metal by treating the composite material with a reducing agent.

146. (New) The process as claimed in Claim 144, wherein the reducing agent used is a borohydride.

147. (New) The process as claimed in Claim 121, wherein a metal salt which is present in or on or else in and on the composite material is reduced to metal by using the composite material as electrode in an electrolysis.

148. (New) The process as claimed in Claim 121, wherein a material-permeable composite material is introduced into a container having at least two openings.

149. (New) The process as claimed in Claim 148, wherein the composite material is introduced into the container in folded or rolled form.

150. (New) The process as claimed in Claim 121, wherein the composite material is fixed in the container so that a gas flowing through the filter has to pass through the composite material at least once.

151. (New) The process as claimed in Claim 150, wherein the composite material is fixed in the container by welding, soldering or adhesive bonding.

152. (New) The process as claimed in Claim 121, wherein the support in the composite material is connected to at least one power lead.

153. (New) A process of cleaning waste or feed gases with the filter of Claim 92,

comprising contacting the gases with the filter.

154. (New) A process of cleaning waste gases from power stations with the filter of Claim 92, comprising contacting the gases with the filter.

155. (New) A process of cleaning the exhaust gases of vehicles driven by internal combustion engines with the filter of Claim 92, comprising contacting the gases with the filter.

156. (New) A process of cleaning the exhaust gases of vehicles driven by diesel engines with the filter of Claim 92, comprising contacting the gases with the filter.

REMARKS

All the claims of the parent application are deleted by this divisional application and claims 92 to 156 are added.

Claims 92 to 156 are now in the application.

Basis for the various recitations in the claims are found in the specification or prior claims as follows:

CLAIM	SPECIFICATION or	DELETED CLAIMS
92	Pages 3, 15 (lines 26-28), 15, (line 36) to 16, (line 2)	
93-95		3-5
96		7
97-100		10-13
101, 102		15, 16
103-105		18-20
106-109		22-25
110		28
111		30
112-116		31-35
117-129		37-49
130		52